

IN THE SPECIFICATION:

Please amend the specification as follows.

Please insert, after the title on line 2 and before the paragraph that begins on line 3 of page 1, the following paragraph.

Related Applications

This is a continuation of application no. 09/776,850, filed February 6, 2001, which is a continuation of application no. 08/707,820, filed September 4, 1996, now U.S. Patent 6,193,746, which is a continuation of application no. 08/393,950, filed February 22, 1995, now abandoned, which is a continuation of application no. 08/087,520, filed on July 2, 1993, now abandoned.

Please amend the paragraph at page 3, lines 9-16, as follows:

This object is attained in accordance with the invention in an the endoprosthesis recited in the preamble to Claim 1 in the form of an elongated hollow structure that can be implanted percutaneously with a catheter in a blood vessel or other cavity of the body. Once correctly positioned it will expand from an initial state with a narrow lumen into a state with a lumen that is as wide as its placement will allow, the endoprosthesis having by a lining of a wrapping material that deforms plastically without fissuring as it expands from the state with the narrow lumen to the state with the wide lumen, the lining and that is impregnated with at least one medication that will gradually and preferably at a uniform rate be released to the patient once the prosthesis is in place.

Please amend the paragraph at page 7, lines 16-22 as follows:

The lining can to advantage be made of polymers or compounds thereof. It can in particular be made of poly-D,L-lactide or poly-D,L-lactide co-trimethylene carbonate. It can also be made of albumin cross-linked with ~~glutaldehyde~~ glutaraldehyde. In this event the aldehyde, which is

thrombogenic, is removed once the albumin is cross-linked. The lining can also be made of polyacrylic or compounds thereof.

Please amend the paragraph at page 8, lines 5-11 as follows:

It has also ~~be~~ been demonstrated ~~practical to ensure~~ that once the prosthesis is in place the lining impregnated with at least one medication will be permeable enough for any metabolites that occur to enter the blood circulation through the wall of the vessel and for oxygen or nutrients for example to diffuse out of the blood through the lining to the wall of the vessel.

Please amend the paragraph at page 9, lines 20-27 and page 10, lines 1-4 as follows:

The outer layer of the lining, the layer impregnated with antiproliferatives and/or other ~~medicational~~ medicinal substances, consists in another important embodiment of a short cuff at each end of the prosthesis. This measure takes advantage of the information obtained from animal testing that constrictions will form rather rapidly after implantation at the ends of a prosthesis with a waterproof or non-porous inner and outer lining component. This effect is of course due to thromboses and proliferation at the intima. The cuffs themselves can be provided with pores. Small pores ensure constant fluid exchange accompanied by diffusion. The pores at the ends of the prosthesis counteract proliferation.

Please amend the paragraph at page 11, lines 1-10 as follows:

One practical embodiment is characterized by at least one flexible medicating tube extending outward along a lining in the form of a tubular membrane. The tube is intended to provide constant medication inside the lining. The measure ensures long-term supply of medication to the wall of the vessel. Blood flow, however, ~~will~~ in contrast to what are called spraying balloons,

will be maintained, and the medication can be supplied at low pressure without the mechanical damage to the wall of the vessel that occurs at the state of the art.

Please insert the heading before the paragraph beginning at page 12, line 7:

BRIEF DESCRIPTION OF THE DRAWINGS

Please amend the paragraphs at page 12, lines 22-27 and page 12, lines 1-11 as follows:

Figure 4 is a view similar to that in Figure 2 of an endoprosthesis with a multiple-layer lining and with its ends coated with medication;

Figure 5 is an illustration at a scale smaller than those of Figures 1 through 4 of a vascular prosthesis with a lateral opening implanted in an artery with a branch;

Figure 6 is a view similar to that in Figure 5 of a vascular prosthesis with a lateral opening that allows blood to flow through a major artery, whereas the stent itself extends along a branch;

Figure 7 is a longitudinal section through an endoprosthesis implanted in a vessel with a coating in the form of a tubular membrane with outer walls provided with openings to administer medication through; and

Please insert the following header before the paragraph beginning on page 13 at line 17.

DETAILED DESCRIPTION

Please amend the paragraph at page 15, lines 1-17 as follows:

It can also be practical to impregnate only the ends of the type of prosthesis illustrated in Figure 4 in order to ensure release of only a low dose and avoid systemic action. The endoprosthesis in accordance with the invention can for example concern a sterile metal stent. The stent is 4 cm long with an inside diameter of 4.0 mm. It is soaked in aseptic conditions in a solution of 4.00 g of poly-D,Llactide (which has an inherent viscosity of 0.3), 0.35 g of triacetin, and 270 g of acetone. It is then allowed to dry (for 5 days at room temperature and for 16 days at a low pressure of 20 torrs) and at 40°C at low pressure (4 days). The polymer coating (24 mg/cm) will now have a phase transition temperature of $25 \pm 2^\circ\text{C}$. The polymeric solution can, however, also have 0.40 g of heparin suspended in it. The polymer coating will in this event comprise 2.0 mg/cm of heparin. The polymer coatings finally can be stored at 37 °C in an isotonic phosphate buffer with a pH of 7.4 at 37°C. In a test of this approach the polymer began to lose mass in 18 days and yielded a subsequent half time of 12 days. The molar mass-reduction half time was 10 days.

Please amend the paragraphs at page 15, lines 26-27 and page 16, lines 1-21 as follows:

Figure 6 on the other hand illustrates an endoprosthesis 30' with a lateral aperture 31' that allows the blood to flow essentially unimpeded through main artery ~~32~~ 32', whereas the stent itself extends into a subsidiary branch 33'. The subsidiary branch could just as well be a bypass, in which event the lateral aperture would be coaxial with the main branch.

The endoprosthesis 40 in the embodiment illustrated in Figure 7 comprises ~~a stent 41 enclosed in~~ a lining 42 and 43 in the form of a double walled sleeve. The outer lining component 43 of the in-place and expanded stent rests against the inner surface 46 of the blood vessel. Inner lining component 42 rests against the stent. Between the two walls is enough room to accommodate medications, which can penetrate to inner surface 46 through openings 18 that extend through outer lining component 13. Inner lining component 12 can also have (unillustrated) openings, even more or less than outer lining component 13. A flexible tube 47 can extend through the space between lining components 42 and 43 more or less coaxial with the

axial extent of endoprosthesis 40 and along the inner surface of the blood vessel, allowing a continuous supply of medication.

Please amend the paragraph at page 18, lines 6-10 as follows:

The lining in all the embodiments specified ~~hereinbefore~~ hereinbefore by way of example can plastically deform ~~to advantage~~ to prevent fissuring as it expands. This feature is characteristic not only of the embodiments in the form of flexible tubes but also of stents with a non-tubular (bulk) lining.